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(12) # EUROPEAN PATENT APPLICATION

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(51) Int. Cl.⁴: **A 61 K 31/47**
A 61 K 31/55, A 61 K 31/505,
A 61 K 31/195, A 61 K 31/66,
A 61 K 31/40, A 61 K 31/495,
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(84) Designated Contracting States:
CH DE FR GB IT LI NL

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The title of the invention has been amended (Guidelines for Examination in the EPO. A-III. 7.3).

(54) **Use of angiotensin-converting enzyme inhibitors in macular degeneration.**

(57) Angiotensin converting enzyme inhibitors are useful in the treatment of senile macular degeneration.

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Bundesdruckerei Berlin

Company Code	Chemical Name
CI-925	2-[2-[[1-(1-(ethoxycarbonyl)-3-phenylpropyl]amino]-1-oxopropyl-6,7-dimethoxy-1,2,3,4-tetrahydro-3-isoquinolinecarboxylic acid.
CGS-14824a	3-[[1-ethoxycarbonyl-3-phenyl-(1S) propyl]amino]-2,3,4,5-tetrahydro-2-oxo-1-(3S)-benzazepine-1-acetic acid HCl.
CGS-14831	3-[[1-carboxylate-3-phenyl-1(S)-propyl]amino]-2,3,4,5-tetrahydro-2-oxo-1(3S)-benzazepine-1-acetic acid HCl.
CI-928	2[2-[[1-carbonyl-3-phenylpropyl]-amino]-1-oxopropyl]-1,2,3,4-tetrahydro-3-isoquinoline-carboxylic acid.
SQ-28853	[1-(S)-4S]-4-[[2-[6-(aminosulfonyl)-7-chloro-1,2,3,4-tetrahydro-4-oxo-2-quinazolinyl]ethyl]-thio]-1-(3-mercapto-2-methyl-1-oxo-propyl)-L-proline monosodium salt.

EXAMPLE I

Dry Filled Capsule

	Per Capsule
Enalapril	50 mg
Lactose	149 mg
Magnesium Stearate	1 mg
Capsule (Size No. 1)	200 mg

The active compound is reduced to a No. 60 Powder and then lactose and magnesium stearate are passed through a No. 60 bolting cloth onto the powder and the combined ingredients are mixed for 10 minutes and filled into the No. 1 dry gelatin capsule.

Any of the other ACE inhibitors can be substituted for enalapril in the above Example I.

EXAMPLE 2

Tablet

A typical tablet contains captopril (25 mg), pregelatinized starch USP (82 mg), microcrystalline cellulose (82 mg) and magnesium stearate (1 mg). In like manner, for example, N-(1(S)-carboxy-3-phenylpropyl)-L-lysyl-L-proline (20 mg) may be formulated in place of N-(1(S)-ethoxycarbonyl-3-phenylpropyl)-L-alanyl-L-proline with the composition of pregelatinized starch, microcrystalline cellulose and magnesium stearate described above.

Any of the other ACE inhibitors can be substituted for captopril in the above Example 2.

EXAMPLE 3

Injectable

A typical injectable formulation contains enalaprilat (5.42 mg), sodium phosphate diabasic anhydrous (11.4 mg), benzyl alcohol (0.01 ml), and water for injection (1.0 ml). Similarly, this formulation can be Prepared employing, for example, N-(1(S)-carboxy-3-phenylpropyl)-L-lysyl-L-proline in place of N-(1(S)-ethoxycarbonyl-3-phenylpropyl)-L-alanyl-L-proline.

Claims

1. A pharmaceutical composition useful for the treatment of senile macular degeneration which comprises, as an active substance, an angiotensin converting enzyme inhibitor which is selected from : enalapril, enalaprilat, lisinopril, captopril, ranipril, perindopril, zofenopril, quinapril, pentopril, cilazapril, pivopril, fosenopril, indolapril, indalapril, phenacein, fentiapril, alacepril, perindopril, murgenic acid, ancovenin, CI 925, CGS 14824a, CGS 14831, WY 44221, CI 928, SQ 28853, SQ 27786, CGS 16617, MC 838, K 26.

2. The pharmaceutical composition of Claim 1 wherein the angiotensin converting enzyme inhibitor is enalapril.

3. The pharmaceutical composition of Claim 1 wherein the angiotensin converting enzyme inhibitor is lisinopril.

4. The pharmaceutical composition of Claim 1 wherein the angiotensin converting enzyme inhibitor is enalaprilat.

5. The pharmaceutical composition of Claim 1 wherein the angiotensin converting enzyme inhibitor is captopril.

6. The pharmaceutical composition of Claims 1-5, which comprises an appropriate vehicle for an oral, a transdermal or a parenteral administration.

7. Use of an angiotensin converting enzyme inhibitor as listed in claim 1 for the manufacture of a pharmaceutical composition useful for the treatment of senile macular degeneration.

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EUROPEAN SEARCH REPORT

Application Number

EP 86 40 2219

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.4)
A	R. BERKOW et al.: "The merck manual of diagnosis and therapy", 14th edition, 1982, pages 2002-2003, Merck & Co., Inc. * Pages 2002-2003: "Senile macular degeneration" *	1,7	

TECHNICAL FIELDS SEARCHED (Int. Cl.4)

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	03-05-1989	GAC G.

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
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E : earlier patent document, but published on, or after the filing date
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